



Name \_\_\_\_\_

Date \_\_\_\_\_

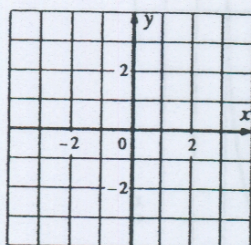
Practice: For use after Lesson 9.1, Algebra 2 with Trigonomet

**Graphing Quadratic Functions**

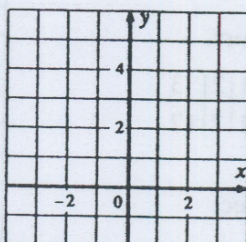
Graph each quadratic function. Then give the direction of the opening of the parabola, the equation of the axis of symmetry, and the coordinates of the vertex. Also, tell whether the vertex is a maximum or a minimum point.

**Algebra 2  
Unit 11: WS #2**

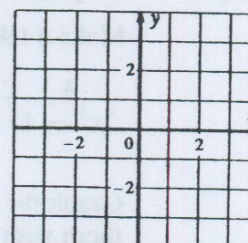
1.  $y = 3x^2$



2.  $y = x^2 + 1$



3.  $y = -2x^2 + 3$



For each quadratic function, give the direction of the opening of the parabola, the equation of the axis of symmetry, and the coordinates of the vertex. Do not graph the function.

4.  $y = 5x^2$  \_\_\_\_\_

5.  $y = -x^2 + 3$  \_\_\_\_\_

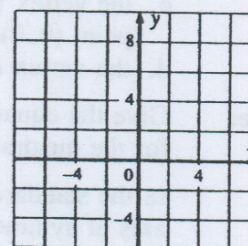
Without graphing, find which of three has the narrowest graph.

6.  $y = x^2$ ,  $y = 4x^2$ ,  $y = \frac{1}{4}x^2$  \_\_\_\_\_

7.  $y = -x^2$ ,  $y = -3x^2$ ,  $y = -\frac{1}{3}x^2$  \_\_\_\_\_

**Application**

8. **Architecture** An arch is to be built in the shape of a parabola whose equation is  $h = -w^2 + 8$ , where  $h$  is the height of the arch and  $w$  is its width (in feet). Graph the function and find the maximum height of the arch.

**MIXED PRACTICE**

Tell whether each function is linear or quadratic. Then find the y-coordinate of each point on the graph of the given function.

9.  $y = 6x^2$ ;  $(-2, ?)$  \_\_\_\_\_

10.  $y = 3x + 1$ ;  $(5, ?)$  \_\_\_\_\_